SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Lymphatics of the Brain.*—Dr. F. Arnold, in his researches on the structure of the brain and spinal cord, and in his Icones Anatomicæ, has published the first complete description of the absorbents of the brain. In the dura mater, veins only were for the most part filled by the injection, and he obtained very successful mercurial injections of the absorbents of the pia mater. He distinguishes three different networks: 1. A superficial delicate one, whose vessels are one-sixth of a line in diameter, and whose meshes are extraordinarily minute, lying in the cellular tissue which connects the arachnoid with the pia mater; 2. A deeper and coarser network also in the subserous tissue of the arachnoid, and composed of vessels with a diameter of one-fourth of a line; 3. A still coarser network, with vessels one-half of a line in diameter, and with such narrow interspaces, that when they are filled the brain seems completely covered by the injection. This network, however, is contained in the pia mater, and passes with its plexus into the depths of the furrows between the convolutions. The trunks of the absorbents into which these networks are continued take the course of the veins on the surface of the brain, accompany them closely, and pass with them and with the arteries through the foramina in the skull. In the choroid plexuses of the lateral and third ventricles there are lymphatic networks and small trunks, which collect into one considerable trunk, accompanying the vena magna Galeni. The absorbents of the very substance of the brain, which probably go with its small veins, could not be filled; they always gave way just on the walls of the ventricles. At present also the attempts to inject the absorbents of the spinal cord have had no success.—*London Med. Gaz.*, November, 1840.

2. *Absence of the Uterus.*—Dr. Seguin relates, in the *Revue Médicale*, (July, 1840,) an example of this malformation. The subject of it was a woman, aged 27 years, of excellent constitution, and enjoying perfect health. The mammæ were well developed, and the external parts of generation perfectly formed, but the vagina was a cul-de-sac, of about an inch and a half in extent, it was lined with a rose coloured rugose membrane. Curious to discover whether there existed behind the membranous closure a uterus or rudiment of one, Dr. S. introduced a finger into the rectum and another into the imperfect vagina and ascertained that the two fingers came in almost perfect contact. No trace of an uterus could be detected.

This woman is married, has venereal desires, and every month experiences a species of *molimen hæmorrhagicum*, though she has never had any hæmorrhage to replace the menstrual discharge.

Notices of some similar cases will be found in our Numbers for May, 1840, pages 39 and 185, January, 1841, page 270, and in the present Number, page 348.

3. *Arrest of Development of the Uterine Organs.*—Dr. O'Bryen records, in a recent No. of the *Dublin Journal*, (January, 1841,) an example of this, in which the uterus measured only one inch in length, one line and a half in thickness, and four lines in breadth, which latter was the same at the os tincæ and the fundus. The ovaries were each about the size of an almond, and, when divided, presented two or three cavities. The Fallopian tubes were well formed, but their openings into the uterus were much larger than usual; the os tincæ was about the size of a small pea, and very soft; the vagina was small, and had a very few rugæ.

4. *Menstruation during Gestation, and Amenorrhœa in the intervals.*—Dr. Meurer has recorded an example of this in a woman ætat. 27, pregnant, when he wrote, for the fourth time. She always has had her menses regularly during pregnancy, and only during that time. They come on without any illness; and she has always borne healthy children at the full period. While unmarried, and except during pregnancy, she never menstruated, but she was never unwell from it. Her general appearance is rather masculine; it appears, therefore, that in her, as in all viragos, the sexual functions require a powerful excitant, such as pregnancy, to cause them to be energetically performed. The menstruation appearing in such a person during pregnancy may be regarded as a wise effort of nature to relieve the local fulness of the sexual organs, which might prove injurious.—*Lond. Med. Gaz.* Nov. 1840, from *Med. Correspondenzblatt.* Bd. 9. No. 31.

5. *On the Mechanical Functions of the External Ear.*—There is an exceedingly interesting paper on this subject in the Number for January last, of our esteemed transatlantic cotemporary, the *Edinburgh Med. and Surg. Journ.*, by Dr. James Sym, of Ayr. We have room at present only for the following summary of the author's views.

1. The external ear protects the *membrana tympani*, and at the same time contributes to a knowledge of the direction of sounds.

2. The *membrana tympani* presents a large recipient surface for sonorous impulses, which draw its apex outwards.

3. The ossicula of the tympanum constitute a system of levers by which the motions of the *membrana tympani* are transmitted to the *fenestra ovalis*, with their extent diminished but their momentum preserved.

4. The laminæ of the cellular bones which surround the ear convey vibrations from the larynx by means of the ossicula to the *fenestra ovalis;* and these have their extent increased whilst their momentum remains the same.

5. The combined effect of the difference of extent of the *membrana tympani* and *fenestra ovalis*, and the difference of range of motion of the point of the malleus and base of the stapes, is to concentrate the impulses of the air, and adapt them for being transmitted without loss to a denser fluid.

6. The stapes is raised from the *fenestra ovalis* by the impulses of the sonorous undulations.

7. The muscles of the typanum restore the *membrana tympani*, and the base of the stapes to their quiescent position.

8. The *fenestra rotunda* permits the pressure of the atmosphere to act through the Eustachian tube upon the water of the labyrinth so as to enable the stapes to be raised.

9. The water of the labyrinth oscillates over the auditory pulps by the alternate suction and pressure of the stapes, and this excites the sensation of hearing.

10. The extent of oscillation is regulated by the cochlea, the laminæ of which expand and contract according to the degree of friction to which they are exposed.

11. The aqueducts are diverticula for receiving the water displaced by the expanded laminæ.

12. The petrous bone deafens the internal ear by excluding such vibrations as are not transmitted by the ossicula.